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ABSTRACT

This paper presents ideas relating to curriculum organization from the Far West Laboratory for Educational Research and Development publication, "Excellence in Our Schools: Making It Happen," which attempted to synthesize nine reports written in response to the National Commission on Excellence in Education report, "A Nation at Risk." It begins by summarizing four general points that are consistent across all nine reports: (1) include higher-order thinking and application skills within the definition of literacy and competence; (2) assure that all students acquire these skills; (3) employ models of instructional delivery that maximize available resources; and (4) evaluate and improve both staff and program effectiveness. The essential components of excellence in schooling, for the purpose of this paper, are drawn from "A Nation at Risk" and include: an instructional system capable of providing the individual learner with an appropriate level of challenge and a realistic opportunity to succeed in meeting clear instructional goals. Three school districts whose instructional programs come close to meeting this ideal excellence are described: Johnson City, NY; Red Bank, NJ; and New Canaan, CT. In each case, instruction is guided by a clearly defined goal, teaching is clearly directed toward that goal, and students are explicitly assessed according to the goal. Finally, academic learning time is cited as a key to school improvement, and it is concluded that raising standards is contingent upon clarity of goals, organization of curriculum, opportunities to learn, quality of instruction, opportunities to demonstrate competence, and staff communication and collaboration. (TE)

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ORGANIZING AND DELIVERING CURRICULUM FOR MAXIMUM IMPACT

William G. Spady
Director
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Educational Research and Development

There's no doubt about it, the National Commission report has captured the attention of the public, the press, and policymakers like no other education document has for a very long time. It has led to the creation of at least one commission on educational improvement in every state, and it has also been followed by report after report after report. But as these other reports came along, the thinking, the focus, the recommendations in them began to differ substantially from the point of view represented in the National Commission's report. That is, while everybody wanted excellence, they had different conceptions of excellence; and while everybody wanted improvement, they had different ideas about what was supposed to happen to the curriculum and the kind of instructional delivery system that it requires.

At Far West Laboratory we decided to write a critical synthesis of all these different reports and to develop some bottom line about what they really say and which of the many recommendations in them we should be paying attention to, based on what we know in the literature and the best theories and practices that are available at the present time. In this book, Excellence in Our Schools: Making It Happen, we have attempted to synthesize nine reports and formulate their recommendations into some kind of concrete plan that local districts and states can use to move school improvement efforts forward. It is not my intention to talk you through all of that today. But I do want to discuss some of the ideas in those reports because they represent some things about the organization of curriculum and the delivery of instruction that may seem pretty radical. They open up some issues and some opportunities for the schools that are very different from just business as usual. It's not a matter of just upping the standards and upping the demands and upping the requirements. There are some recommendations in these reports that have to do with changing the character of schooling and changing the basic definition of teaching roles and responsibilities and administrator roles and responsibilities quite substantially. I'd like to talk about those recommendations and offer some examples of strategies used by three school districts that are responding to this challenge. We'll look at some of the results they've been getting.

Four Messages in the Reports on Excellence in Education

I'd like to begin by summarizing what I feel are four very

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FIGURE 1
NINE MAJOR REPORTS

1. Adler - The Paideia Proposal
2. A Nation at Risk
3. Action for Excellence
4. Academic Preparation for College
5. Twentieth Century Fund Task Force
6. Goodlad - A Study of Schooling
7. Sizer - A Study of High Schools
8. Boyer - High School
9. National Science Foundation Board Report

general points that are pretty consistent across all of the reports. That is, there are real differences among the reports, but there are thematically in virtually all of them four very significant things that I think represent some major challenges to instructional managers. And I'd like to make the argument that instructional managers include everybody from the state superintendent to classroom teachers. They are all instructional managers. Earlier today Dave Berliner focused a great deal in his remarks about the nature of decisions that teachers need to make--decisions about time, curriculum, grouping, and allocation of resources in their own classrooms. That's all instructional management (see page 89). Principals need to make similar kinds of instructional management decisions within the building as a whole. It's a matter of simply looking at wnat your organizational frame of reference is.

FIGURE 2
FOUR MAJOR INSTRUCTIONAL MANAGEMENT NEEDS

1. Elevate traditional definitions of literacy and competence to include higher-order thinking and application skills, and integrate them into the "essential curriculum."

2. Assure that all students acquire these skills consistent with state-of-the-art in instructional delivery.

3. Employ models of instructional delivery that maximize instructional time, staff capabilities, available technologies, dollars and community resources.

4. Evaluate and improve both staff and program effectiveness as essential components of an integrated instructional management strategy.

Now, what are the messages? Message number one is simply that what we have been calling basic skills in the last several years is an inadequate conception of basic skills. It doesn't go far enough. It does not deal with some of the truly essential basics involving higher-order thinking skills, analysis, problem solving, etc. So, one message that the reports all share is that we need to elevate our conception of what we mean by basic skills and change the curriculum focus to ensure that this new conception of the basics is addressed. And I'm not just talking about the subject matters that constitute the basics. We're really talking about the kinds of intellectual skills that are part of those basics.

Second, there is a demand that virtually all students reach those basics. It's not a matter any longer of simply the brightest and the best. As I read it, the charge to the schools in those reports is that all kids need to master the elevated basics. And, that's really what this conference is about. What are those ideas, those practices, and that research which really tells us what type of instructional delivery will make this happen?

The third major message is that the schools are going to need to employ models of instructional delivery that maximize the resources they've got. The fact is, when you look across the United States at what has happened since the reports have come out, there are only two states that have deliberately increased their funding for education despite all the appeals in the reports for greater funding. Fortunately, I think the research tells us we can be doing a far better job with some of the resources we've got than we are now doing. And the reports are very clear about the need for more imaginative, creative use of the resources. We need to try to do both--increase our resource base and make better use of the present resource base.

Fourth, there is a strong message in the reports about the need to improve staff and programs through evaluation. We need to be more accurate and more rigorous in the evaluation of educational personnel. And we need to be equally rigorous with program results. This is a major challenge to building-level administrators to make sure that they have the skills and tools to do the evaluation because the assumption is: we aren't really going to improve unless good evaluation is part of the improvement process.

Toward a Definition of Excellence

So, as I see it, there are at least four substantial points of agreement in the reports. But there is considerable disagreement on other factors, and as I looked at the 800 recommendations in those nine reports, I asked, "What is it that ties these together in terms of a sense of common mission or common definition?" Everyone was arguing for excellence, but a common definition was needed to drive

our analysis of the various reports. We chose to use the definition of excellence in the National Commission's report, A Nation at Risk, as the basis for our analysis.

Let me just remind you of two key components of that definition. The first part pertains to excellence in learning:

> "At the level of the individual learner, excellence means performing on the boundary of individual ability in ways that test and push back personal limits."

It doesn't say excellence is achieving a 1200 composite on the SAT. It doesn't say excellence is getting straight A's in school. It doesn't say excellence is getting admitted to Harvard. It says, that at the level of the individual student, excellence occurs when he or she is being challenged at the threshold of what they can do. That is, it's pushing at their current personal limits.

Number two, excellence for the organization is defined by the National Commission as:

> "That school or college which sets high expectations and goals for all learners; then tries in every way possible to help students reach them."

It is that part of the definition that is clearly most problematic to schools. As I read the definition, and as I thought about the different reports, it seemed to me that the reports appeal to educators to organize and operate in a way that allows them to help students in every way possible. And I'd like to make the argument today that we are organized in a way which prevents us from doing that! We need to think not only about improving the curriculum, improving our standards, improving our tests, and improving the pedagogical skills of teachers; we also need to think about how we're organized to deliver instruction. We just aren't organized in ways that will enable teachers as individuals or the staff as a whole to help students in every way possible.

I took that as a starting point and generated the following definition that I'd like to use as our definition of excellence.

FIGURE 3
A WORKING DEFINITION OF EXCELLENCE

Excellence occurs when the instructional system is able to provide the individual learner with an appropriate level of challenge and a realistic opportunity to succeed on a frequent and continual basis for each instructional goal in the program.

Notice the words that I've underlined: (1) instructional system--we need to think of instruction occurring as a total system, (2) individual learner--the bottom line is the individual learner, not whole classes or whole grade levels of students, (3) appropriate level of challenge--we need opportunities to succeed, and these opportunities need to be frequent and continual. Maybe, in fact, the word should be continuous. They don't happen on a periodic basis; they are present all the time. The final major condition in the definition is that the curriculum and the instructional program need to be built around clear goals. We need to know the purposes for what we're doing and what we're trying to accomplish. Excellence occurs when we can help students succeed in a timely fashion with regard to all of the goals which we have for them in our program. That's the best we can do, and if we do that, we will indeed be excellent.

Excellence in Education: Three Examples

I want to talk about three different school districts where the instructional programs that they use come extremely close to this definition of excellence. And I'd like to share with you some of the results and successes they've had by pursuing and organizing their instructional programs this way.

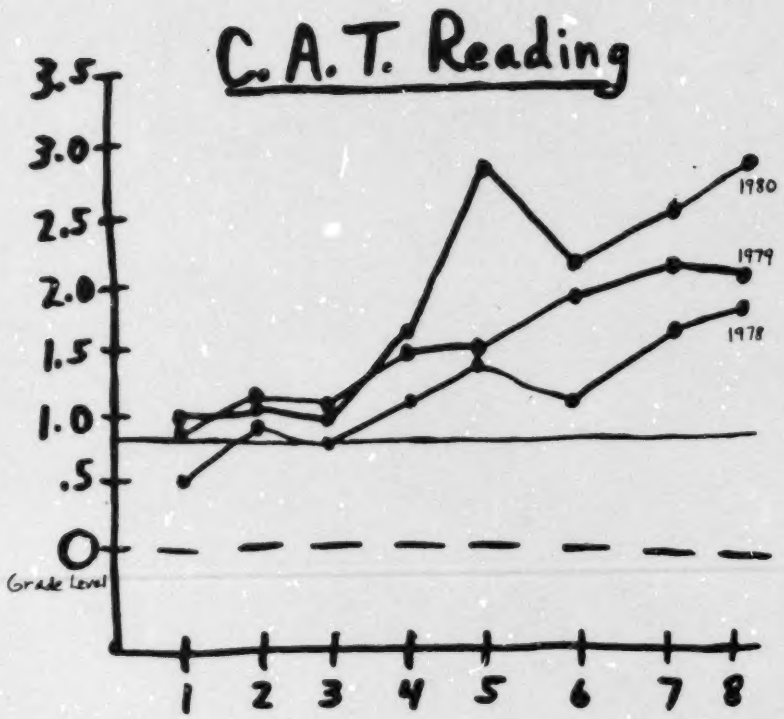
The first district, Johnson City, is a small, blue-collar district in the state of New York. Johnson City began a systematic school improvement program about 12 years ago based on some of Professor Benjamin Bloom's Mastery Learning concepts. The lines in Figure 4 indicate class averages for first grade through eighth grade on the California Achievement Test in reading.

What impressed me about these data was the following: (1) the lines angle upward; that is, there is a cumulative positive effect for students, which means that over time those students are doing better and better in relation to grade level norms; (2) the program is improving in its impact year after year; that is, there is a cumulative beneficial effect the longer they work at this approach; (3) by the time those eighth graders finished school in 1980, the class average on the California Achievement Test in reading was close to 2-1/2 years above grade level. And these are averages; they include all students at the grade level. These results are very impressive, and they are matched by state assessment tests.

Their math results represent a very similar pattern, but they finish even higher (Figure 5). There is some variability between the 1979 line and the 1980 line, but the basic pattern is one of very high achievement for virtually all graduating eighth graders.

The next district I'd like to show you is Red Bank, New Jersey, a district with a large number of minority students. I'd like you to

FIGURE 4

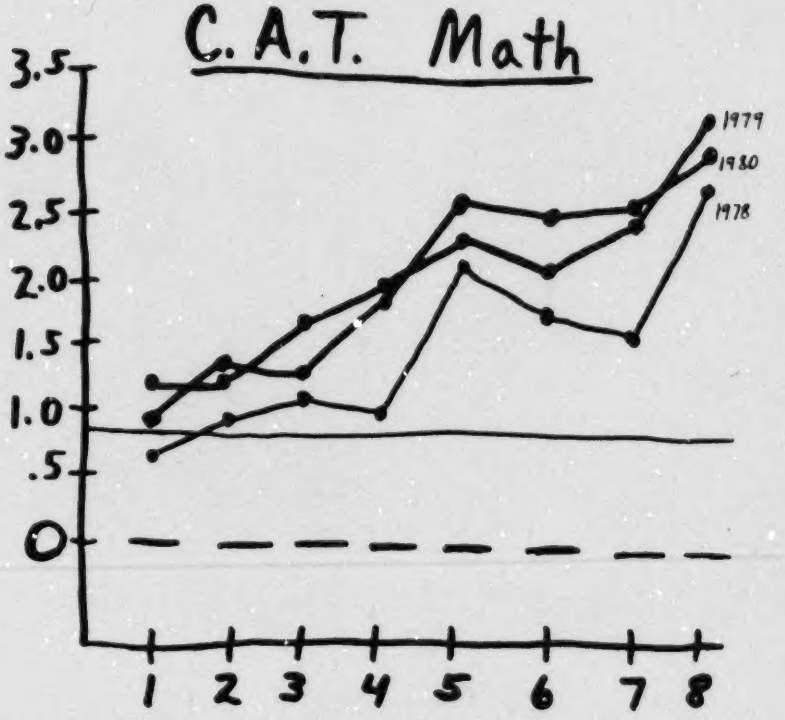


Johnson City, NY

Up > .5 = 5

No Gain = 1

FIGURE 5

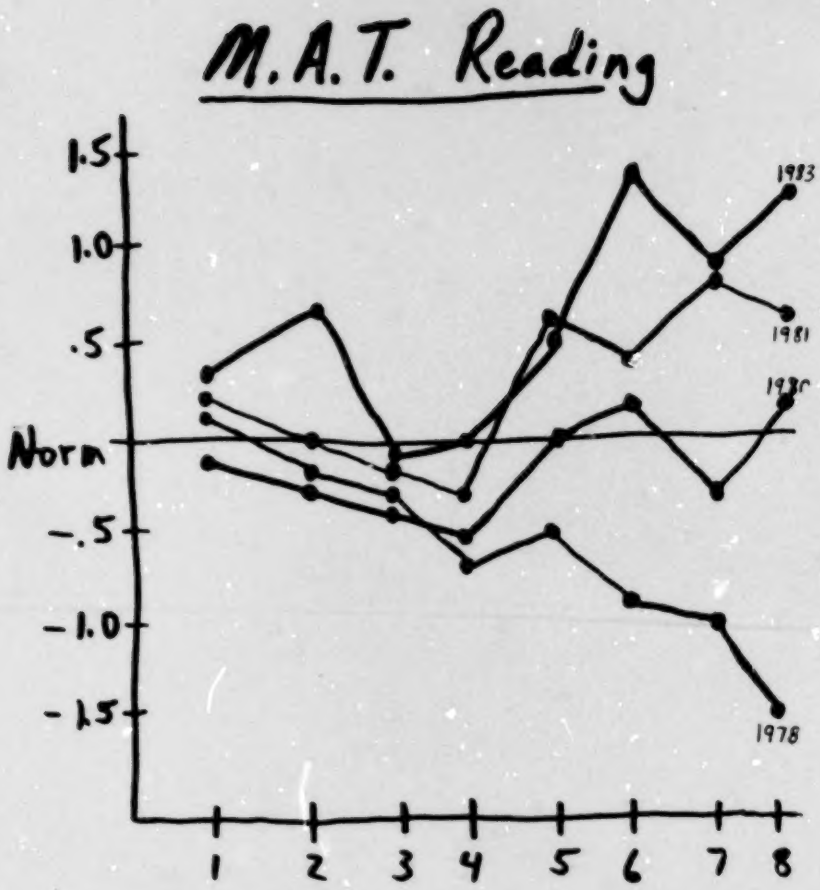


Johnson City, NY

Up > .5 = 6

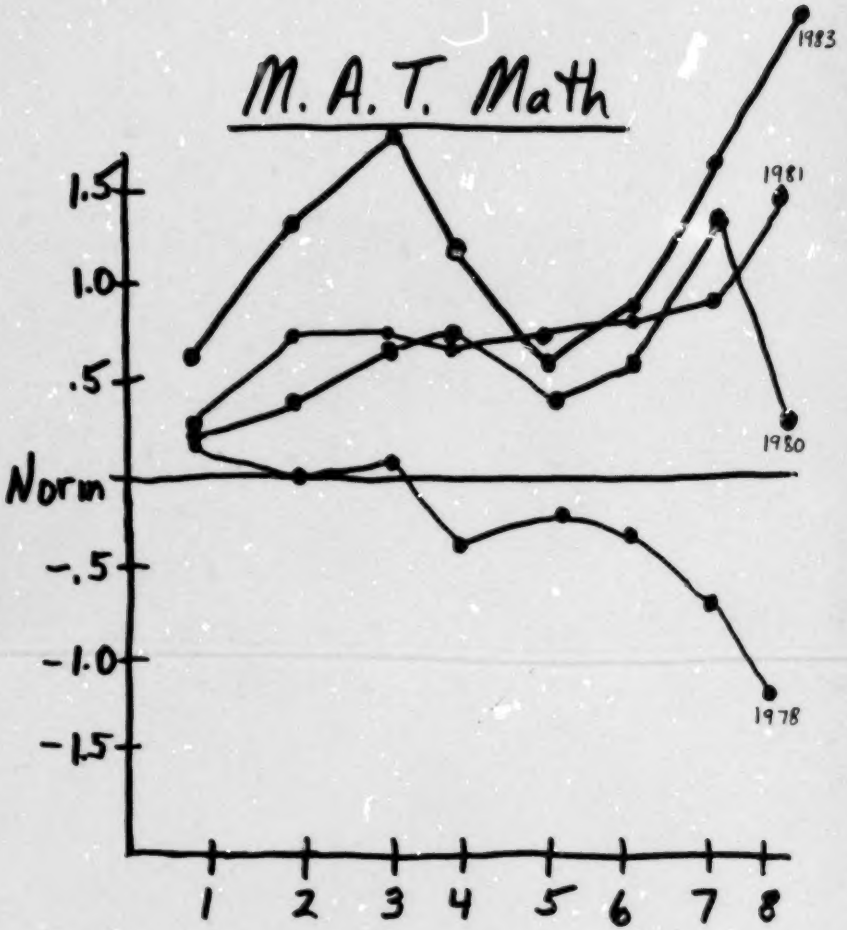
No Gain = 0

FIGURE 6



Red Bank, NJ

FIGURE 7



Red Bank, NJ

focus particularly on the 1978 line. It says that in 1978 the longer the students stayed in that school district the less they learned (Figure 6). That is, things just got worse and worse and worse. Their superintendent, Dr. Joan Abrams said, "These kinds of results are an embarrassment. They do not need to exist. These kids can learn, and we can make the program better so that that happens." Two years later they had risen to the 1980 line. One year after that they had achieved the 1981 line, and two years later they had achieved the 1983 line. So you're looking at a gain over a five-year period in the average achievement scores of three full years in reading. That is, eighth graders were a year and one half below expected norms in 1978, but they're basically a year and one half above expected norms by 1983. That happened because of a very dedicated commitment to the kind of definition of excellence that we've just provided.

The math scores are unbelievable (Figure 7). They show an achievement gain over a five-year period for eighth graders of about four full years. That is almost a grade level per year in the improvement of those students over what the previous graduating class had accomplished. I have not seen a turnaround situation in any school district that matches that. And the interesting thing to me is that this is happening in self-contained classrooms with grade level grouping of the students. It shows what can be done when we get our instructional delivery act together, when we organize curriculum well, and when we give teachers the skills to do better and raise their expectations about the capacity of their students to do better. This was one of the major barriers in the district, the belief that the kids couldn't really handle any more than they already were.

FIGURE 8
CENTER SCHOOL, NEW CANAAN, CONNECTICUT
MATH RESULTS

* About 15% of Sixth Graders finish the first half of Algebra I. Some complete it.
* About 60% of Sixth Graders score 99 percentile on M.A.T.
* About 30% of Fifth Graders score 99 percentile on M.A.T.
* About 2 students in the entire school score below grade level.
* Lowest Sixth Grade score = 6.3
  Lowest Fifth Grade score = 5.9

The third model is a middle class district in New Canaan, Connecticut. These results are average results for the last seven years (Figure 8). This is a K-6 school that has 15% of their 6th graders finish the first half of Algebra I each year. In fact, some of their 6th graders each year complete Algebra I. About 60 percent of their 6th graders every year score at the 99th percentile on the Metropolitan Achievement Test, and about 30 percent of their 5th graders score at the 99th percentile on the Metropolitan. Only two students or fewer each year in the last seven years have scored below grade level for any grade in the school on the Metropolitan, and that includes handicapped students. It is an exciting model, and it is by organizing instructional delivery in the way they do that they are able to get these kinds of results year after year.

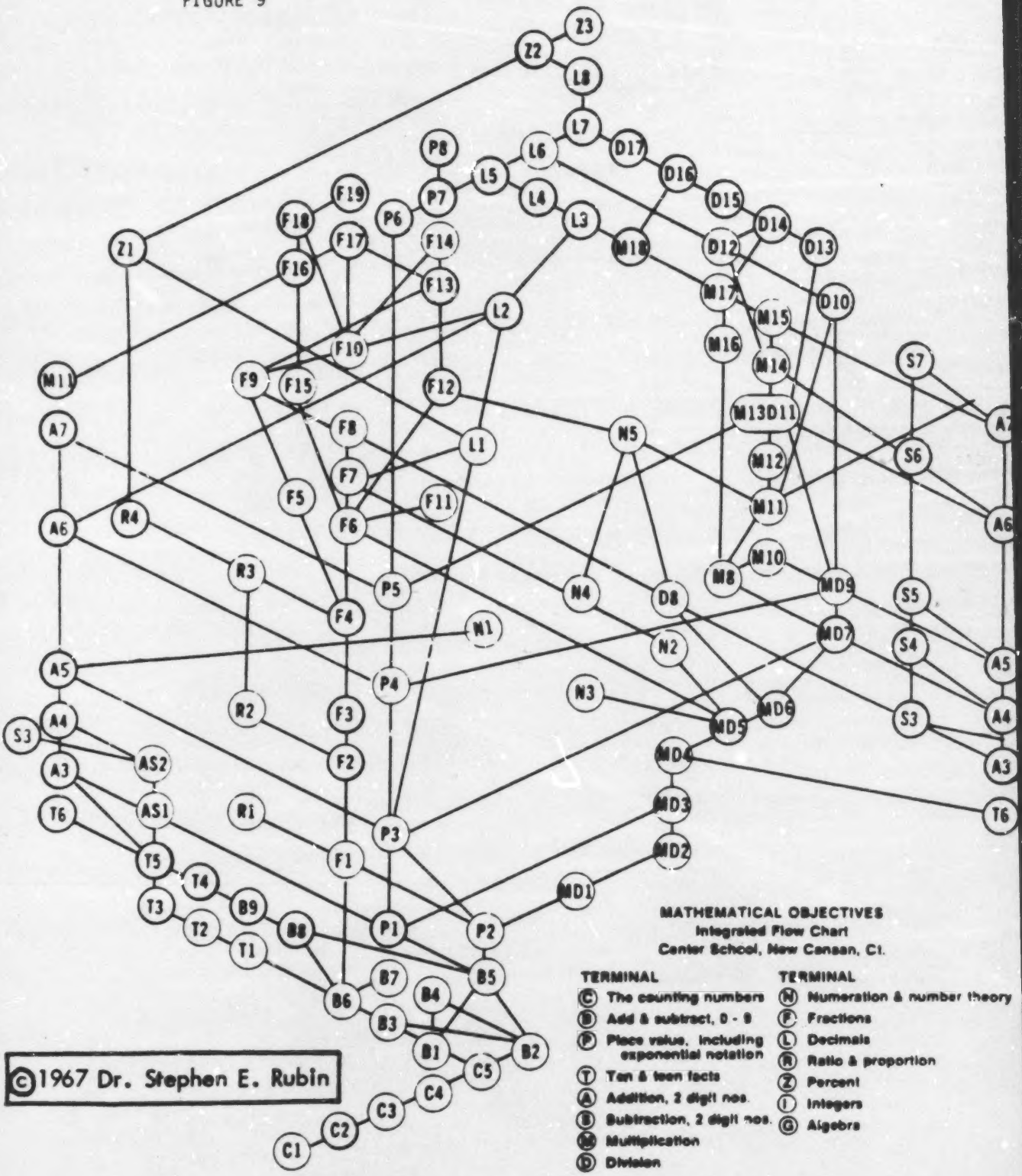
What's fascinating about their delivery program? First, they have a clearly defined hierarchy of math skills that has been validated (Figure 9). This hierarchy, which they developed and tested themselves over a 15-year period, doesn't match the textbooks. That is, the sequence of math skills that they build into the textbooks does not match the real hierarchy of cognitive prerequisites in math learning for their students. Second, they are willing to deliver instruction to any student who needs to move forward on that hierarchy any time they are ready to move forward. And they do that by moving the student to a classroom where that particular level of instruction is going on for as long as they need to be in that classroom. And then they move them to another classroom. On the average, one out of every seven students in the school is reassigned to a new learning group on any given day.

Teachers do no recordkeeping. Teachers do no testing. The teachers only teach. You know who teaches fractions? The fractions specialist in the school is a second grade teacher. She would never be teaching fractions if all she could teach was the second grade curriculum to second grade kids. But she's the best fractions teacher in the school, and anybody who needs to learn fractions goes to her and she teaches fractions. So what we've got is a model where the entire staff shares responsibility for the entire student body and teacher skills are well used.

Notice that Red Bank, New Jersey accomplished something almost as dramatic with their students in self-contained classrooms just by having the teachers themselves do far more rigorous application of skills and attention to the grouping of students. You don't have to go to this incredibly complex model of delivery to get that kind of result.

So what do those three districts have in common besides this definition of excellence? One, a commitment to having virtually all of their students reach the clearly defined goals and standards (Figure 10). Second, they create the context--the climate context and the organizational delivery--for the kids to succeed in reaching those goals. That has required some major changes in all three of

FIGURE 9



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MATHEMATICAL OBJECTIVES
Integrated Flow Chart
Center School, New Canaan, Ct.

TERMINAL	TERMINAL
(C) The counting numbers	(N) Numeration & number theory
(B) Add & subtract, 0 - 9	(F) Fractions
(P) Place value, including exponential notation	(L) Decimals
	(R) Ratio & proportion
(T) Ten & teen facts	(Z) Percent
(A) Addition, 2 digit nos.	(I) Integers
(S) Subtraction, 2 digit nos.	(G) Algebra
(M) Multiplication	
(D) Division	

those systems, changes that involve people's beliefs and attitudes about their work and student capabilities as well as changes of an organizational nature (Figure 11). People acquire new skills and use new processes. And this influences changes in procedures and organizational arrangements. They have to change to support those skills being used.

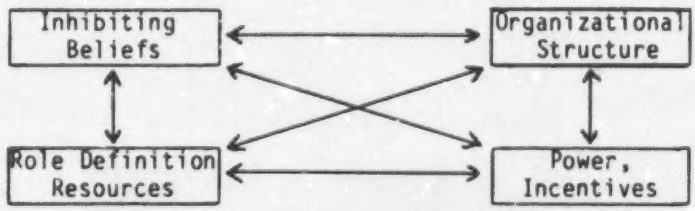
FIGURE 10
TWO FUNDAMENTAL FEATURES

1. Commitment to all students reaching clear standards.
2. Creating the context for them to succeed.

Given the "realities" of educational systems, both imply fundamental changes.

One -- Affective & Attitudinal
Two -- Organizational & Technical

FIGURE 11
KEY ELEMENTS IN THE CHANGE PROCESS



Leadership must accommodate all four!

There's nothing magical about this at all. In each of the three cases, there were three things present: (1) instruction was guided by a clearly defined goal, (2) teaching was clearly directed toward that goal, and (3) students were explicitly assessed on the goal itself (Figure 12). And in all three districts the learning of the students was four or more times greater than would have been predicted by their previous learning, by their previous achievements, by their IQ, or by their socio-economic status. There's an important message there in terms of curriculum organization. It means we need to know not only what we are teaching, but also what we want the kids to be able to do. And it means that our testing needs to be deliberately

organized to directly reflect that. Testing doesn't necessarily mean pencil/paper exercises. In fact, don't use the word "testing" at all. Use the word "assessment." Get away from thinking about testing because testing leads us to thinking about pencil and paper.

FIGURE 12
SUCCESS-ORIENTED INSTRUCTIONAL ALIGNMENT

1. State your goals in operational terms.
2. Teach explicitly to those goals, intending to have all students reach them.
3. Explicitly assess the goals.

"4 to 1" Effective is Routine

S. Alan Cohen
University of San Francisco

Academic Learning Time is a Key to School Improvement

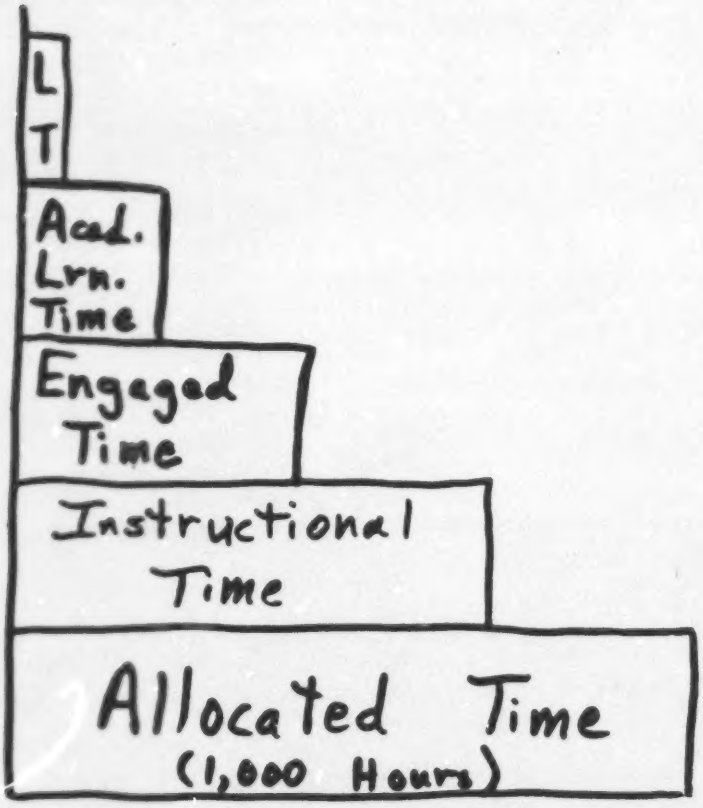
Let me give you a slightly different look at Academic Learning Time (Figure 13). I'd like you to think about time in two different ways: (1) time is an organizer and (2) time is a resource. School time gives us 1000 hours of potential resource to work with. But how we choose to organize that time and divide it up, and how those divisions of time dictate conditions of opportunity and eligibility for students severely limits the resource usefulness of some of that time.

So think about time as both an organizer and a resource and look at the interplay between the organization of time--class periods, school days, semesters, school year--versus the amount of time we can have available to use inside of those blocks. In allocated time we've got about 1000 hours. Research tells us that the difference between the total amount of time available and the amount of time that we actually have for classroom instruction is limited. We give away recess, lunch hour, bathroom breaks, etc. So, although we started with 1000 hours, the reality is that only a fraction of that is actually going to be available for instructional time. A further reality is that even when teachers do a certain amount of instruction, only a fraction of that amount of time captures the attention and interest of students so that it becomes engaged time.

Let me give you an example of engaged time. Johnny is told to solve 20 math problems. So he solves the 20 math problems and gives them to the teacher and the teacher says, "Great, solve 20 more while the other kids are working on theirs." Now, does Johnny need more engaged time on math problems? Probably not. So simply saying that our goal is to increase engaged time is to miss the point. It isn't

FIGURE 13

"TIME ON TASK"



TIME — As an Organizer
— As a Resource

just increasing engaged time because we can have kids spend lots of time on redundant, unnecessary, unproductive activities. The challenge is increasing Academic Learning Time.

As I view the research, Academic Learning Time involves three major things (Figure 14). First, the kids are working on a clearly defined goal. There is a target there for them to pursue. The teacher has given them an orientation. Second, the teacher's instruction is explicitly directed to that goal. The third element is that they are working on that goal at an appropriate level of difficulty. For them to be working at an appropriate level of difficulty means: (1) that they've got the cognitive prerequisites to be working on that new thing; (2) that they can have a high rate of success in that new challenge; and (3) that they still have a need to reach the goal.

FIGURE 14
ACADEMIC LEARNING TIME

1. Clearly Defined Goal
2. Explicitly Directed Instruction
3. Appropriate Level of Difficulty
   a) Have the Prerequisites
   b) High Rate of Success
   c) Need to Reach Goal

"WINDOW OF OPPORTUNITY"

Increase the Frequency of Windows, Not their Duration!

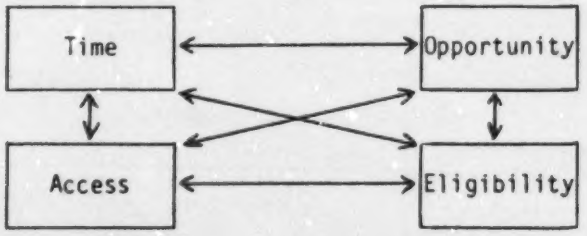
I see Academic Learning Time as representing a window of opportunity. It is the time between the readiness to learn and when learning is completed. That is, it's that period of time it really takes you to learn something. Once you've got it and it is simply a routine thing that you can perform, you'll have a high rate of success but you will no longer be at an appropriate level of challenge.

So the window of opportunity represented by Academic Learning Time is that amount of time that it takes the individual learner to learn the new thing which is his new level of challenge. And once he's completed it, he is ready for a new window of opportunity. And, if our goal is to expand Academic Learning Time, we must increase the frequency of these windows, not their duration. That is, you try to have more and more of these threshold experiences for the kids rather than merely have them do things longer. Because an awful lot of the "doing them longer" is wasted time. It isn't really Academic Learning Time anymore; it's unnecessary reinforcement time.

If you take this notion of window of opportunity and you look at what these schools that we've talked about have achieved, then what it's telling us about curriculum organization is the following: we have to build curriculum around clearly known prerequisites for new learning. That is, if we don't know what leads students to that new threshold, then they'll flounder around in that instructional time. So curriculum organization needs to take this building on prerequisites into account. Certain kinds of learning can be prerequisites for many other things. It's not just a simple linear step up the ladder. The challenge to us is a challenge of using instructional time better. And using the instructional time better means being able to deliver instruction to the students at a time when it benefits them.

As I see it, there is a very direct, immediate, inter-related connection among these four things when we talk about time as an organizer (Figure 15). Time means access, access means opportunity, opportunity means eligibility, eligibility means access, access means time, time means opportunity, opportunity means access, etc. So that our thinking about improving instructional delivery has got to be thinking that forces us to examine the eligibility conditions and opportunity conditions. Have we made it virtually impossible for people to succeed by how we have chosen to organize instruction? What if they don't finish right when the semester is over? What if they need a couple of extra weeks? Well, too bad because that's when we grade.

FIGURE 15
OPPORTUNITY SYSTEM



All of these affect:
1. School Organization
2. Assignment Structure
3. Instructional Delivery
4. Impact of Standards

So, grading, certification, and time are all tied up in this complex set of recommendations. The reports all want us to increase standards, they all want us to improve things. But it seems to me

that when we look at the issue this way, it has an impact on at least these four things. School organization, that is, how the school is organized depends on the decisions we make about these four things. The assignment structure in the school, that is, who works with whom, and for how long, is determined by those four things. Instructional delivery is absolutely determined by those four things. And the impact which standards will have on students' achievements is dependent on those four things.

I'd like to conclude by having you consider that last point (Figure 16). If you're going to raise standards and you don't try to do these other six things, the probability of increasing student failure and frustration is extremely real. You also need to: (1) increase the clarity of your goals so that the students know what it is you want them to succeed at, (2) change the organization of the curriculum, (3) change opportunities to learn; that is, have them be more frequent, more timely, (4) change the quality of instruction, (5) increase opportunities for the students to demonstrate competence other than in a weekly test or a semester's exam, and (6) increase the opportunity for staff communication and collaboration. If these six things are not also included, there is a real danger that raising standards in the name of excellence may, in fact, backfire. One of the first results that happened when the state of Florida implemented its Minimum Competency Testing requirements several years ago was that the dropout rate in Florida's high schools went way up. Raising standards pushed kids out of school. The dropout rate in our schools right now is already alarmingly high, and one of the reasons is that kids are not working at an appropriate level of challenge. In some cases it's too easy, and in other cases it's too hard, too demanding for what they can do.

FIGURE 16

When you raise standards, also increase:

1. Clarity of Goals
2. Organization of Curriculum
3. Opportunities to Learn
4. Quality of Instruction
5. Opportunities to Demonstrate Competence
6. Staff Communication and Collaboration

So raising standards is tied to these six things. And I encourage you as you think about your improvement efforts, as you design your programs, as you think about improving teachers' skills and administrators' skills, to take a look at how things are organized. Take a look at what you assume about the organization of time, because with organization of time comes boundaries on opportunity, eligibility, access, etc. Those conditions are the real determinants of student success.